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which has been noticed by preceding observers, but of which the cause had not hitherto been ascertained. A dark stria may occasionally appear as a luminous one, and *vice versa*, when viewed by light transmitted at different degrees of obliquity.

The structure here described, the author remarks, reduces the muscular fibre to the simple type of organization exhibited in the combination of a series of cells, associating it with other tissues of cell formation, and will probably, he thinks, open new sources of explanation of the immediate agency of muscular action, a power hitherto involved in the deepest mystery.

2. "On the Comparative Anatomy of the Thyroid Gland." By John Simon, Esq., Assistant Surgeon to King's College Hospital, and Demonstrator of Anatomy in King's College. Communicated by Joseph Henry Green, Esq., F.R.S.

The author, considering that the careful dissections of Meckel and Cuvier have fully established the universal existence of a thyroid gland in the whole of the class Mammalia, proceeds to consider the comparative anatomy of this organ in the remaining classes of vertebrated animals. His dissections of birds have included all the orders, and, in most instances, several families from each: he has never failed to find in them a thyroid gland, and, with the aid of the microscope, to recognise its peculiar structure; he presumes, therefore, that it is universally present in that class of animals. He has also detected the presence of this organ in reptiles of every order; although generally either wholly overlooked by anatomists, or mistaken for the thymus. Descriptions are here given of its appearance, position and structure in different families of Chelonia, Sauria, Ophidia and Batrachia. In the class of Fishes, it is by no means universally or even generally present. The author has found it in the carp, anableps, pike, exocetus, cod, haddock, whiting, eel, sturgeon, callorhynchus, shark and skate, and perhaps in the lamprey. On the other hand, it appears to be absent in the perch, mullet, gurnard, mackerel, tench, salmon, trout, herring, plaice, halibut, turbot, sole, cyclopterus, gymnotus and balistes.

The general conclusion which the author deduces from his researches is, that the distribution of the thyroid gland is regulated by a simple and uniform law; being dependent on the existence or non-existence of another organ with which its presence alternates, and which, in many fishes, assumes the form of a minute supplementary gill, the vessels of which communicate, on the one hand, with the systemic veins about the base of the cranium, and on the other, by a single long trunk with the first branchial vein.

Although the thyroid gland occupies various situations in different animals, it always maintains an intimate relation with the vascular supply of the brain, and is always so nourished as to be capable of a greater or less nutrition according to the activity or repose of that nervous centre.

3. "On the Resolution of Numerical Equations." By Joseph Agar,